

**ABSTRACT**

Apparatus for amplifying an input signal having an input signal power includes a power amplifier, which is adapted to amplify an intermediate signal so as to generate an output signal, and which is characterized by a non-linearity. A non-linear filter is coupled to decompose the input signal into a series of input signal components, each such component proportional to a product of the input signal by a respective integer power of the input signal power, and is adapted to filter the signal components responsively to the non-linearity so as to generate the intermediate signal for input to the power amplifier.